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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/537,878
Filing Date: June 07, 2005
Appellant(s): BREMER ET AL.

Frank Keegan

For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/15/2007 appealing from the Office action mailed 05/17/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The Appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The Appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6201476 B1	Depeursinge et al.	3-2001
5317304	Choi	5-1994
2003/0014660 A1	Verplaetse et al.	1-2003

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claims 1, 3, 5-7 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by *Depeursinge*.

As to claims 1, 3 and 9, *Depeursinge* discloses a method and a "device for monitoring the activity of a person"/monitoring device (1), comprising:

a measurement unit including (unit 7 and) a plurality of motion sensors/accelerometers (2a-2c) operable to produce respective sensor signals indicative of motion experienced thereby (figures 1, 3; column 2, lines 33-67; column 3, lines 1-29); and

a processor (including units 8, 9) operable to receive the sensor signals from the measurement unit (unit 7 and accelerometers (2a-2c)) and to process the sensor

signals in accordance with a predetermined method (figures 1, 3; column 3, lines 30-67; column 4, lines 1-7),

characterized in that the activity monitor/monitoring device (1) (including processor (units 8, 9)) is operable to monitor and process the sensor signals discontinuously in time (column 4, lines 7-11) and the processor (including units 8, 9) is operable to monitor the sensor signals in turn (column 3, lines 65-67; column 4, lines 7-11).

As to claim 5, *Depeursinge* discloses the processor (including units 8, 9) being operable to enter a monitoring mode of operation in which the processor (8, 9) monitors the sensor signals and to enter a standby mode of operation in which no monitoring takes place (column 4, lines 7-11).

As to claims 6 and 10, it is inherent for *Depeursinge*'s processor (8, 9) to enter the monitoring mode and the standby mode alternately because it is impossible for the processor (8, 9) to enter both the monitoring mode and the standby mode simultaneously or at the same time.

As to claims 7 and 11, *Depeursinge* teaches "in order to save power consumption, it may be contemplated to put units 8 and 9 in a standby mode of operation, if no dynamic changes in the acceleration signals are detected". Therefore, since the respective time periods for the monitoring and standby modes depend on dynamic changes in the acceleration signals, it is inherent that the respective time periods are variable.

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 102(b) as being anticipated by *Choi*.

As to claims 1, 3 and 9, *Choi* discloses a method and a device for monitoring the activity of a person, comprising:

a measurement unit including a plurality of motion sensors (21, 22)/motion detecting means (22) operable to produce respective sensor signals indicative of motion experienced thereby (figure 5; column 4, lines 39-47); and

a processor/microprocessor (24) operable to receive the sensor signals from the measurement unit and to process the sensor signals in accordance with a predetermined method (figure 5; column 4, lines 52-68; column 5, lines 1-2),

characterized in that the activity monitor is operable to monitor and process the sensor signals discontinuously in time (column 5, lines 3-15; column 6, lines 28-61) and the processor/microprocessor (24) being operable to monitor the sensor signals discontinuously in time and in turn (column 5, lines 3-15; column 6, lines 28-61).

As to claim 2, *Choi* discloses the measurement unit being operable to output the sensor signals discontinuously in time because sensor signals (from sensors 21, 22) are only produced when either motion and/or tampering is detected and thus since the sensor signals are produced discontinuously, the measurement unit is inevitably operable to output the sensor signals discontinuously in time (column 4, lines 48-55).

As to claim 5, *Choi* discloses the processor/microprocessor (24) being operable to enter a monitoring/active mode of operation in which the processor/microprocessor

(24) monitors the sensor signals and to enter a standby mode of operation in which no monitoring takes place (column 5, lines 3-15; column 6, lines 28-61).

As to claims 6 and 10, *Choi* discloses the processor/microprocessor (24) being operable to enter the monitoring/active mode and the standby mode alternately, for respective time periods (column 5, lines 3-15; column 6, lines 28-61).

As to claims 7 and 11, *Choi* discloses the respective periods being variable and being enforced by the main control process (MCP) (column 6, lines 28-33).

As to claims 8 and 12, *Choi* discloses the time period for the standby mode being 95% and the time period for the monitoring/active mode being 5% and thus the respective time periods are fixed.

Claims 1-3 and 5-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Verplaetse*.

As to claims 1 and 9, *Verplaetse* discloses a method and a device for monitoring activity, comprising:

a measurement unit including a "multi-axis MEMS accelerometer" (36) operable to produce sensor signals indicative of motion experienced thereby (figure 3; paragraph 0032, lines 1-6); and

a processor (38) operable to receive the sensor signals from the measurement unit and to process the sensor signals in accordance with a predetermined method (figure 3; paragraph 0032, lines 6-19),

characterized in that the activity monitor is operable to monitor and process the sensor signals discontinuously in time (paragraph 0036) and the processor (38) being operable to monitor the sensor signals in turn (paragraphs 0036, 0045).

As to claims 1 and 9, *Verplaetse* does not expressly discloses a plurality of motion sensors.

However, *Verplaetse* uses a multi-axis accelerometer (36) which is functional to sense the acceleration in at least two distinct axes. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a plurality of motion sensors/accelerometers for sensing the acceleration in at least two distinct axes, as required by *Verplaetse*, instead of a single multi-axis accelerometer to save money.

As to claim 2, *Verplaetse* discloses that the measurement unit (including multi-axis accelerometer (36)) is operable to output the sensor signals discontinuously in time (figure 3; paragraph 0036).

As to claim 3, *Verplaetse* discloses a power management circuit (56) designed to periodically power down accelerometer (36) and processor (38) to save power. Therefore, when the accelerometer (36) and processor (38) are powered down, the processor (38) will not be monitoring any sensor signals. Therefore, *Verplaetse*'s processor (38) is operable to monitor the sensor signals discontinuously in time (figure 3; paragraph 0036).

As to claim 5, *Verplaetse* discloses that the processor (38) is operable to enter a monitoring mode of operation/full theft detection mode in which the processor (38)

monitors the sensor signals and to enter a standby/powered-down mode of operation in which no monitoring takes place (paragraphs 0036, 0044).

As to claims 6 and 10, *Verplaetse* discloses the processor (38) being operable to enter the monitoring/full theft detection mode and the standby/powered-down mode alternately, for respective time-periods (paragraph 0036).

As to claims 7 and 11, *Verplaetse* discloses "processor 38 will stay powered and will keep accelerator 36 powered and processor 38 will screen for theft-type motion until no motion is sensed". Therefore, since the powering down of the accelerometer (36) and the processor (38) is dependent upon the sensing of motion, it is inherent that the respective time periods for the monitoring/full theft detection and standby/powered-down modes are variable (paragraph 0036).

As to claims 8 and 12, *Verplaetse* discloses the respective time periods for the monitoring/full theft detection and standby/powered-down modes being fixed to 500 ms, being implemented by a power management circuit (56) (paragraphs 0036, 0044, 0046).

(10) Response to Argument

The following is a response to arguments presented by Appellant(s) applicable to the appealed claims:

Primarily, as to Appellant's argument, "[in turn] monitoring of sensors as recited in independent claims 1 and 9 encompasses an interpretation of the limitation [in turn]

as a sequential non-overlapping monitoring of the sensors (e.g., a time-division monitoring of the sensors)", the Examiner disagrees.

The original written disclosure, including the specification, claims and the drawings, does not provide sufficient support for such an interpretation of the limitation, "in turn" as suggested by the Appellant.

The specification discloses, "the monitoring of the measurement unit outputs is performed in a discontinuous manner over time" (page 3, lines 24-25), "reduction in monitoring time to a few seconds with a variable time interval between monitoring periods, is beneficial for the power consumption of the activity monitor" (page 3, lines 31-33) and "discontinuous monitoring [of] activity can be achieved by programming the processor unit appropriately, so that the processor goes into a standby (or sleep) mode after a few seconds of monitoring...power reduction could be achieved by switching off the monitoring unit itself, such that the accelerometers or motion sensors are only active for a discontinuous amount of time" (page 4, lines 1-10).

Moreover, the Appellants' admission on page 7, 2nd paragraph, lines 5-7 of the Appeal Brief recites, "the sensor signals are monitored and processed discontinuously in time and in turn in view of the standby mode".

Hence, for examination purposes, the limitation "in turn" has been afforded the interpretation of being 'one after the other' whereas, the limitation "discontinuously in time" has been afforded the interpretation of being 'not continuous in time'. Further, a "standby mode", as defined in the specification, page 4, lines 1-10, is hereby

interpreted, in accordance to the Appellants' admission, to read on "discontinuously" and "in turn".

Depeursinge

A careful review of *Depeursinge* reveals that it teaches a discontinuous monitoring of motion sensor signals. Specifically, as shown in figures 1 and 2, three motion sensors (2a-2c) produce sensor signals which are processed by a "processor circuit 6 including three processor units 7, 8 and 9" (column 2, lines 33-47) in accordance with a predetermined method, characterized in that in order to save power consumption, units (8) and (9) are put in a standby mode (column 4, lines 8-10) (emphasis added by Examiner). Thus, processor units (8) and (9) are operable to monitor the sensor signals in turn. Note that neither of the claims 1 and 9 discloses each/all sensor signals being monitored/processed discontinuously or in turn (emphasis added by Examiner). Moreover, *Depeursinge* discloses that the processor unit (7) samples/monitors the acceleration signals at a given time interval which may be equal to 40 milliseconds and calculates $\Delta\alpha$, which represents the variation of the acceleration between two successive samples for the corresponding axis (column 2, line 62 - column 3, line 3) (emphasis added by Examiner). Therefore, *Depeursinge*'s activity monitor is operable to monitor and process the sensor signals discontinuously in time.

Moreover, as to Appellant's argument, "*Depeursinge* actually teaches away from any type of sequential non-overlapping monitoring of motion sensors 2a-2c by A/D converter 5 because this would degrade the behavior analysis of the motion sensors by

processor unit 8", the Examiner disagrees. As to claims 1 and 9, *Depeursinge's* unit (7) and motion sensors (2a-2c) are interpreted as constituting the "measurement unit", while units (8) and (9) are interpreted as constituting the "processor". Since, the Appellant does not particularly define the "measurement unit" and the "processor" in the claims (which all use the word "comprising"), the former is interpreted as a unit including a plurality of motion sensors that are operable to produce signals indicative of motion, whereas the latter is interpreted as a device being operable to receive the signals, directly or indirectly, from the former and further being operable to process the signals according to a predetermined method. Therefore, since the A/D converter (5) is not considered to be either the measurement unit or the processor, the Appellant's arguments pertaining to the converter (5) are rendered moot.

Choi

A careful review of *Choi* reveals that it teaches a discontinuous monitoring of motion sensor signals. Specifically, as shown in figure 5, motion detecting means (22) produce sensor signals which are processed by microprocessor (24) (figure 5; column 4, line 39 - column 5, line 2; column 6, lines 51-52) in accordance with a predetermined method, characterized in that in order "[t]o conserve energy, the microprocessor 24 remains in a dormant "stand-by" mode most of the time" (column 5, lines 3-14) (emphasis added by Examiner). Thus, microprocessor (24) is operable to monitor the sensor signals in turn. Note, again, that neither of the claims 1 and 9 discloses each/all sensor signals being monitored/processed discontinuously or in turn (emphasis added

by Examiner). *Choi* expressly discloses, "After...the system is operating, the system goes to [stand-by] mode 51 [and] remains in stand-by mode 51 until an event 52 occurs" (column 5, lines 27-33). *Choi* further discloses, "[t]he system typically spends approximately 95% of the time in stand-by mode, and therefore, the important function of conserving energy is effected" (column 5, lines 39-42). Thus, *Choi*'s activity monitor is operable to monitor and process the sensor signals discontinuously in time. If, as asserted by the Appellant, *Choi*'s activity monitor continuously monitors and processes the sensor signal, then it would not be able to perform its desired "important function of conserving energy" as mentioned above.

Verplaetse

A careful review of *Verplaetse* reveals that it teaches a discontinuous monitoring of motion sensor signals. Specifically, as shown in figure 3, multi-axis accelerometer (36) produces sensor signals which are processed by processor (38) (paragraph 0032, lines 1-19) in accordance with a predetermined method, characterized in that in order "to save power" it has a "[p]ower management circuit 56...designed to periodically power down accelerometer 36" (paragraph 0036, lines 7-19). *Verplaetse* further discloses, "[p]ower management circuit 56 forces the theft detection system to go into a low-power mode when the system has been still...[i]n the low power mode, all the chips are typically powered down...[m]icrocontroller 38 uses an external watch...and its internal timer to wake it[self] and the accelerometer 36 approximately once every 500 ms" (paragraph 0044). Therefore, *Verplaetse*'s activity monitor is operable to monitor

and process the sensor signals discontinuously in time and the microprocessor (38) is operable to monitor the sensor signals in turn.

In response to the Appellant's argument that *Verplaetse* fails to show certain features of the Appellant's invention, it is noted that the features upon which Appellant relies (i.e., "a time-division monitoring of the sensors" or "time would be divided into time periods with a first signal being monitored during odd time periods and a second signals being monitored during even time periods") are not recited in the rejected claim(s) and are not provided sufficient support by the written specification. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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